

WHAT IS CLAIMED IS:

1. A liquid crystal display device, comprising:

a lower plate having a lower substrate, a gate insulating film on said lower substrate, an organic protective film on said gate insulating film, a plurality of link electrodes, and a plurality of metal patterns, said lower plate further including a plurality of channels defined through said organic protective film, wherein each channel has a defining surface comprised of a metal pattern, and wherein said plurality of channels are at locations between two of said link electrodes;

an upper plate; and

a sealant coated seal between said lower plate and said upper plate for bonding said upper plate to said lower plate, wherein said sealant coated seal crosses said link electrodes, and wherein said sealant contacts said metal patterns.

2. A liquid crystal display device according to claim 1, wherein said lower substrate is comprised of glass.
3. A liquid crystal display device according to claim 1, wherein said link electrodes are on said lower substrate.
4. A liquid crystal display device according to claim 2, wherein said metal patterns are on said gate insulating film.
5. A liquid crystal display device according to claim 1, wherein said metal patterns are

on said lower substrate.

6. A liquid crystal display device according to claim 5, wherein said channels are defined through said gate insulating film.

7. A liquid crystal display device according to claim 6, wherein said link electrodes are on said gate insulating film.

8. A liquid crystal display device according to claim 1, wherein said metal patterns are on said gate insulating film.

9. A liquid crystal display device according to claim 1, wherein said link electrodes are on said gate insulating film.

10. A liquid crystal display device according to claim 1, wherein said gate insulating film is comprised of an inorganic material.

11. A liquid crystal display device according to claim 1, wherein said channels extend beyond a contact width of said seal.

12. A liquid crystal display device according to claim 1, wherein said metal patterns are wider than said channels.

13. A liquid crystal display device, comprising:

a lower plate having a lower substrate, a gate insulating film on said lower substrate, an organic protective film on said gate insulating film, and a plurality of link electrodes, said lower plate further including a plurality of channels defined through said organic protective

film, wherein each channel has a defining surface comprised of said gate insulating film, and wherein said plurality of channels are at locations between two of said link electrodes;

an upper plate; and

spec to spec
a sealant coated seal between said lower plate and said upper plate for bonding said upper plate to said lower plate, wherein said sealant coated seal crosses said link electrodes, and wherein said sealant contacts said gate insulating film.

14. A liquid crystal display device according to claim 13, wherein said lower substrate is comprised of glass.

15. A liquid crystal display device according to claim 13, wherein said link electrodes are on said lower substrate.

16. A liquid crystal display device according to claim 13, wherein said channels are defined partially through said gate insulating film.

17. A liquid crystal display device according to claim 13, wherein said link electrodes are on said gate insulating film.

18. A liquid crystal display device according to claim 13, wherein said gate insulating film is comprised of an inorganic material.

19. A liquid crystal display device according to claim 13, wherein said channels extend beyond a contact width of said seal.

20. A method of fabricating a liquid crystal display device, comprising the steps of:

forming a plurality of link electrodes on a lower substrate;

forming a gate insulating film over said lower substrate;

forming a plurality of etch stops on said gate insulating layer, wherein each etch stop is between two link electrodes;

forming an organic protective film over said gate insulating film; and

etching through said organic protective film so as to form channels, wherein each channel contacts an etch stop.

21. A method of forming a liquid crystal display device according to claim 20, further including the steps of:

locating a sealant coated seal over said organic protective film and over said channels such that said sealant contacts said etch stops, and bonding an upper plate to the sealant coated seal.

22. A method of forming a liquid crystal display device according to claim 20, wherein the step of forming a plurality of etch stops on said gate insulating layer forms metallic etch stops.

23. A method of forming a liquid crystal display device according to claim 20, wherein the step of forming a plurality of etch stops on said gate insulating layer forms semiconductive etch stops.

24. A method of fabricating a liquid crystal display device, comprising the steps of:

forming a plurality of etch stops on a lower substrate;

forming a gate insulating film over said etch stops and over said lower substrate;

forming a plurality of link electrodes on said gate insulating layer, wherein each link electrode is between two etch stops;

forming an organic protective film over said gate insulating film and over said plurality of link electrodes; and

etching through said organic protective film so as to form a plurality of channels, wherein each channel contacts an etch stop.

25. A method of forming a liquid crystal display device according to claim 24, further including the steps of:

locating a sealant coated seal over said organic protective film and over said channels such that said sealant contacts said etch stops, and bonding an upper plate to the sealant coated seal.

26. A method of forming a liquid crystal display device according to claim 24, wherein the step of forming a plurality of etch stops on said lower substrate forms metal etch stop.

27. A method of fabricating a liquid crystal display device, comprising the steps of:

forming a plurality of electrodes on a lower substrate;

forming a gate insulating film over said lower substrate and over said plurality of

005727 4EE9E460

electrodes;

forming a plurality of etch stops on said gate insulating layer, wherein each etch stop is between two electrodes;

forming an organic protective film over said gate insulating film and over said etch stops; and

etching through said organic protective film and through said etch stops to form a plurality of channels, wherein each channel has said gate insulating layer disposed between said each channel and said lower substrate.

28. A method of forming a liquid crystal display device according to claim 27, further including the steps of:

locating a sealant coated seal over said organic protective film and over said channels such that said sealant contacts said gate insulating layer, and bonding an upper plate to the sealant coated seal.

29. A method of forming a liquid crystal display device according to claim 27, wherein the step of forming a plurality of etch stops on said gate insulating layer forms semiconductive etch stops.